

Appl. No. 10/051,435
Amdt. Dated July 27, 2005
Reply to Office action of June 27, 2005
Attorney Docket No. P15370-US1
EUS/J/P/05-1193

Amendments to the Claims:

This listing of claims replaces all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Original) A telecommunications system for improved session management within a data cellular network, comprising:

a gateway one of a plurality of access networks, each of the plurality of access networks being capable of being in wireless communication with a plurality of access terminals to provide data connectivity between a packet switched data network and the plurality of access terminals during respective data sessions associated with the plurality of access terminals, said gateway access network serving a first subnet of the plurality of access networks and further comprising:

means for receiving a session information request message from a target one of the plurality of access networks within the first subnet, the session information request message being sent to complete a dormant handoff of an ongoing one of the data sessions to the target access network;

means for determining a second subnet that contains a source one of the plurality of access networks associated with the ongoing data session; and

means for routing session information associated with the ongoing data session from the source access network to the target access network.

2. (Original) The system of claim 1, wherein said gateway access network further comprises:

means for receiving an additional session information request message including at least a previous Unicast Access Terminal Identifier assigned by an additional source access network within the first subnet to an additional ongoing data session.

3. (Original) The system of claim 2, wherein said gateway access network further comprises:

Appl. No. 10/051,435
Amdt. Dated July 27, 2005
Reply to Office action of June 27, 2005
Attorney Docket No. P15370-US1
EUS/J/P/05-1193

a list of currently assigned Unicast Access Terminal Identifiers within the first subnet, each of the Unicast Access Terminal Identifiers including a field identifying an associated one of the plurality of access terminals within the first subnet that assigned the respective one of the Unicast Access Terminal Identifiers; and

means for matching the received previous Unicast Access Terminal Identifier with one of the currently assigned Unicast Access Terminal Identifiers within the list to determine the additional source access network.

4. (Original) The system of claim 2, wherein said gateway access network further comprises:

means for querying each of the plurality of access networks within the first subnet with the previous Unicast Access Terminal Identifier to determine the additional source access network.

5. (Original) The system of claim 1, wherein the session information request message includes location data associated with the source access network, and wherein said means for determining further comprises:

means for identifying an additional gateway access network within the second subnet based on the location data.

6. (Original) The system of claim 5, wherein said means for identifying further comprises:

means for associating subnet geographical areas and gateway access network identities; and

means for mapping the location data to one of the subnet geographical areas.

7. (Original) The system of claim 6, wherein the target access network receives the location data in a Route Update message and sends the session information request message including the location data to said gateway access network.

Appl. No. 10/051,435
Amdt. Dated July 27, 2005
Reply to Office action of June 27, 2005
Attorney Docket No. P15370-US1
EUS/J/P/05-1193

8. (Original) The system of claim 1, wherein said gateway access network further comprises:

means for receiving an additional session information request message including location data associated with an additional source access network within the first subnet for an additional ongoing data session; and

means for matching the received location data to the identity of the additional source network.

9. (Original) The system of claim 1, wherein the session information request message includes an identifier of the source access network, and wherein said means for determining further comprises:

means for identifying an additional gateway access network within the second subnet using the received identifier of the source access network.

10. (Original) The system of claim 9, wherein said means for identifying comprises:

a table listing gateway access network identities and associated source access network identities; and

means for matching the received identifier of the source access network to one of the source access network identities to determine the associated gateway access network identity of the additional gateway access network.

11. (Original) The system of claim 10, wherein the target access network receives the identifier of the source access network in a Route Update message or a Unicast Access Terminal Identifier request message and sends the session information request message including the identifier of the source access network to said gateway access network.

12. (Original) The system of claim 1, wherein said gateway access network further comprises:

Appl. No. 10/051,435
Amdt. Dated July 27, 2005
Reply to Office action of June 27, 2005
Attorney Docket No. P15370-US1
EUS/J/P/05-1193

means for receiving an additional session information request message including an identifier associated with an additional source access network within the first subnet for an additional ongoing data session; and

means for matching the received identifier to the identity of the additional source network.

13. (Original) The system of claim 1, further comprising:

an additional gateway one of the plurality of access networks within the second subnet, said additional gateway access network being configured to receive the session information request message from said gateway access network within the first subnet, retrieve the session information from the source access network and transmit the session information to said gateway access network within the first subnet.

14. (Original) The system of claim 13, wherein said additional gateway access network within the second subnet and said gateway access network within the first subnet communicate using the IPsec protocol.

15. (Original) A method for improved session management within a data cellular network having a plurality of access networks, each of the plurality of access networks being capable of being in wireless communication with a plurality of access terminals to provide data connectivity between a packet switched data network and the plurality of access terminals during respective data sessions associated with the plurality of access terminals, said comprising the steps of:

receiving a session information request message at a gateway one of the plurality of access networks serving a first subnet of the plurality of access networks from a target one of the plurality of access networks within the first subnet, the session information request message being sent to complete a dormant handoff of an ongoing one of the data sessions to the target access network;

determining a second subnet that contains a source one of the plurality of access networks associated with the ongoing data session; and

Appl. No. 10/051,435
Amdt. Dated July 27, 2005
Reply to Office action of June 27, 2005
Attorney Docket No. P15370-US1
EUS/J/P/05-1193

routing session information associated with the ongoing data session from the source access network to the target access network.

16. (Original) The method of claim 15, further comprising the step of:
receiving an additional session information request message including at least a previous Unicast Access Terminal Identifier assigned by an additional source access network within the first subnet to an additional ongoing data session.

17. (Original) The method of claim 16, further comprising the step of:
matching the received previous Unicast Access Terminal Identifier with one of a plurality of currently assigned Unicast Access Terminal Identifiers within a list of currently assigned Unicast Access Terminal Identifiers within the first subnet to determine the additional source access network, each of the Unicast Access Terminal Identifiers including a field identifying an associated one of the plurality of access terminals within the first subnet that assigned the respective one of the Unicast Access Terminal Identifiers.

18. (Original) The method of claim 16, further comprising the step of:
querying each of the plurality of access networks within the first subnet with the previous Unicast Access Terminal Identifier to determine the additional source access network.

19. (Original) The method of claim 15, wherein the session information request message includes location data associated with the source access network, and wherein said step of determining further comprises the step of:
identifying an additional gateway access network within the second subnet based on the location data.

20. (Original) The method of claim 19, wherein said step of identifying further comprises the steps of:

Appl. No. 10/051,435
Amdt. Dated July 27, 2005
Reply to Office action of June 27, 2005
Attorney Docket No. P15370-US1
EUS/JP/05-1193

associating subnet geographical areas and gateway access network identities;
and
mapping the location data to one of the subnet geographical areas.

21. (Original) The method of claim 20, further comprising the steps of:
receiving the location data at the target access network in a Route Update message; and
sending the session information request message including the location data from the target access network to said gateway access network.

22. (Original) The method of claim 15, further comprising the steps of:
receiving an additional session information request message including location data associated with an additional source access network within the first subnet for an additional ongoing data session; and
matching the received location data to the identity of the additional source network.

23. (Original) The method of claim 15, wherein the session information request message includes an identifier of the source access network, and wherein said step of determining further comprises the step of:
identifying an additional gateway access network within the second subnet using the received identifier of the source access network.

24. (Original) The method of claim 23, wherein said step of identifying further comprises the step of:
matching the received identifier of the source access network to one of a plurality of source access network identities listed in a table associating gateway access network identities and source access network identities to determine the associated gateway access network identity of the additional gateway access network.

Appl. No. 10/051,435
Amdt. Dated July 27, 2005
Reply to Office action of June 27, 2005
Attorney Docket No. P15370-US1
EUS/J/P/05-1193

25. (Original) The method of claim 24, further comprising the steps of:
receiving the identifier of the source access network at the target access network
in a Route Update message or a Unicast Access Terminal Identifier request message;
and
sending the session information request message including the identifier of the
source access network to said gateway access network.

26. (Original) The method of claim 15, further comprising the steps of:
receiving an additional session information request message including an
identifier associated with an additional source access network within the first subnet for
an additional ongoing data session; and
matching the received identifier to the identity of the additional source network.

27. (Withdrawn) A telecommunications system for improved session
management within a data cellular network, comprising:
a serving one of a plurality of access networks, each of the plurality of access
networks being capable of being in wireless communication with a plurality of access
terminals to provide data connectivity between a packet switched data network and the
plurality of access terminals during respective data sessions associated with the
plurality of access terminals, said serving access network being configured to negotiate
an extended data session for a select one of the plurality of access terminals across at
least one additional one of the plurality of access networks, said serving access network
and said at least one additional access network assigning a respective identifier for said
extended data session and storing each said respective identifier therein.

28. (Withdrawn) The system of claim 27, wherein said serving access
network and said at least one additional access network are located within an extended
session area.

Appl. No. 10/051,435
Amdt. Dated July 27, 2005
Reply to Office action of June 27, 2005
Attorney Docket No. P15370-US1
EUS/J/P/05-1193

29. (Withdrawn) The system of claim 28, wherein said extended session area is operator-defined.

30. (Withdrawn) The system of claim 28, wherein said extended session area is defined by a mobile subscriber associated with said select access terminal.

31. (Withdrawn) The system of claim 28, wherein said extended session area is defined based on the location of said select access terminal.

32. (Withdrawn) The system of claim 27, wherein each of the plurality of access networks has an extended session list therein containing a list of foreign identifiers assigned by other access networks for extended data sessions, each of the foreign identifiers pointing to an associated local identifier assigned by the respective access network for the respective extended data session.

33. (Withdrawn) The system of claim 32, wherein said at least one additional access network is configured to perform a handoff of said extended data session associated with said select access terminal from said serving access network to said at least one additional access network using said identifier assigned by said serving access network to said extended data session.

34. (Withdrawn) The system of claim 33, wherein said at least one additional access network is configured to match said received identifier associated with said serving access network with said extended session list to determine said identifier assigned by said at least one additional access network for said extended data session and activate said extended data session.

35. (Withdrawn) The system of claim 34, wherein said at least one additional access network is further configured to send a session location update notification to

Appl. No. 10/051,435
Amdt. Dated July 27, 2005
Reply to Office action of June 27, 2005
Attorney Docket No. P15370-US1
EUS/J/P/05-1193

said serving access network to deactivate said extended data session in said serving access network.

36. (Withdrawn) The system of claim 27, wherein said respective identifiers assigned by said serving access network and said at least one additional access network are Unicast Access Terminal Identifiers, each of said Unicast Access Terminal Identifiers pointing to a respective session record for said extended data session within said serving access network and said at least one additional access network, said session record within said serving access network including protocols and protocol configurations negotiated between said select access terminal and said serving access network and said session record within said at least one additional access network including protocols and protocol configurations negotiated between said serving access network and said at least one additional access network.

37. (Withdrawn) A method for improved session management within a data cellular network having a plurality of access networks, each being capable of being in wireless communication with a plurality of access terminals to provide data connectivity between a packet switched data network and the plurality of access terminals during respective data sessions associated with the plurality of access terminals, said method comprising the steps of:

negotiating, by a serving one of the plurality of access networks, an extended data session for a select one of the plurality of access terminals across at least one additional one of the plurality of access networks;

assigning, by said serving access network and said at least one additional access network, a respective identifier for the extended data session; and

storing each said respective identifier for said extended data session within said serving access network and said at least one additional access network.

38. (Withdrawn) The method of claim 37, wherein said step of storing further comprises the step of:

Appl. No. 10/051,435
Amdt. Dated July 27, 2005
Reply to Office action of June 27, 2005
Attorney Docket No. P15370-US1
EUS/J/P/05-1193

storing said identifiers within an extended session list that contains a list of foreign identifiers assigned by other access networks for extended data sessions, each of the foreign identifiers pointing to an associated local identifier assigned by the respective access network for the respective extended data session.

39. (Withdrawn) The method of claim 38, further comprising the step of:
performing a handoff of said extended data session associated with said select access terminal from said serving access network to said at least one additional access network using said identifier assigned by said serving access network to said extended data session.

40. (Withdrawn) The method of claim 39, wherein said step of performing further comprises the step of:

matching said identifier associated with said serving access network received at said at least one additional access network with said extended session list stored therein to determine said identifier assigned by said at least one additional access network for the extended data session and activate the extended data session.

41. (Withdrawn) The method of claim 40, wherein said step of performing further comprises the step of:

sending a session location update notification from said at least one additional access network to said serving access network to deactivate the extended data session in said serving access network.

42. (Withdrawn) The method of claim 36, wherein said respective identifiers assigned by said serving access network and said at least one additional access network are Unicast Access Terminal Identifiers, each of said Unicast Access Terminal Identifiers pointing to a respective session record for said extended data session within said serving access network and said at least one additional access network, and wherein said step of negotiating further comprises the steps of: